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RED HEADED PINE SAWFLY

ST. IGNACE RANGER DISTRICT
Hiawatha National Forest

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RED-HEADED PINE SAWFLY

Biological Evaluation

A. INTRODUCTION

The red-headed pine sawfly has a history of erratic changes in population levels on the Hiawatha National Forest. The pest was found in a young 52 acre red pine plantation on the St. Ignace District during the Sclerroderris surveys in August of 1965. The southeast corner of the plantation was observed and the population was judged to be high. The larval stage was about over so the decision was made to conduct a systematic egg survey the summer of 1966.

The survey was conducted June 28 and 29 in accordance with the Uniform Survey Procedure approved by the Lake States Forest Insect Survey Committee 1956 by the zone entomologist and district personnel.

The Uniform Survey Procedure recommends that control should be initiated for plantations 6' tall or less, if 10% or more of the trees have one or more egg-batches. The results of this survey is that the trees are less than six feet tall and that 5.3% of the trees were infested. Data was also kept on the number of trees in the plots that had been defoliated the previous year. The result was that 1.6% of the trees were defoliated during that period. This is an increase of 3.7%. The recommendation is that no control be prepared for the summer of 1967, but that the area be surveyed again to follow this increase in population.

B. TECHNICAL INFORMATION

1. Causal Agent
Red-Headed Pine Sawfly, *Neodiprion lecontei* (Fitch)
2. Host Tree
Red Pine, *Pinus resinosa* Ait.
3. Type of Damage
The major loss is due to tree killing. Reduced vigor and growth loss can result from partial defoliation.
4. Biological Data
The sawfly is a gregarious feeder completely defoliating a branch or an entire small tree. The eggs are laid several to a needle and on adjacent needles of the same branch. This laying of the eggs together makes them easy to spot and this group of eggs is referred to as an egg batch.

The survey as spelled out in the Uniform Survey procedure consists of taking five trees per plot and the plots spaced at fifty paces along the row. Every 25th row of trees is sampled. This spacing gives approximately one plot per acre. Some

portions of the fifty-two acres were not planted, hence the 38 plots tallied. The survey calls for controls if 10% of the trees in a plantation of trees under 6 feet tall are infested.

The survey revealed that 10 trees of the 190 trees examined (38 plots x 5 trees per plot) were infested. This is 5.3% of the trees examined. A tally of trees that had been infested the year before was made and found to be 1.6%. This is an increase of 3.7% of the trees being infested. The population is not evenly distributed over the area, but is concentrated in the southeast corner.

5. Environmental Factors

This past summer's extended period of hot, dry weather may have a detrimental effect upon the population. The effect is not known at this time.

The trees average about 3 feet tall and can be completely defoliated by one colony of sawfly.

6. Location and Extent of Outbreak

The plantation is fifty-two acres in size and is located in Section 14, T41N, R4W, St. Ignace District, Hiawatha National Forest. The surrounding area is mainly swamp conifers and aspen.

Discussion and Recommendations

The survey shows that no control measures are justified at this time. The population has increased during the past year and it should be surveyed again next summer in order to follow population. If a decrease is found it could be due to either parasites or the hot, dry summer experienced this year.

The population is not evenly distributed over the entire area, but rather is concentrated in the southeast corner of the plantation. (See summary data sheet). If the population is present and is still concentrated in the same area, then future trouble can be averted or postponed by destroying this concentrated population in that small area. This can be done in a very short time by either mechanical destruction or by spraying each individual colony with Malathion from a back pack pump. Either method should take less than half a day.

TABLE 1 - SUMMARY OF SAWFLY EGG-BATCH SURVEY

No. of trees in plot with egg-batches	No. of Plots	
	1966	1965
0	32	35
1	4	3
2	1	0
3	0	0
4	1	0
5	0	0

Total No. of trees infested 1966 - 10, 1965 - 3. Percentage of trees infested 1965 - 5.3%, 1965 - 1.6%.